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ABSTRACT

Unequal opportunity shapes the patterns of access and success in postsecondary education. Only a concerted effort by federal and state policymakers, educational providers, and other interested stakeholders can bring about the changes that lead to more equal opportunity in postsecondary education. The research-based evidence in this report represents the knowledge base for the strategic direction of the Lumina Foundation as it works to improve postsecondary education. The report documents the extent to which inequity is present across four dimensions of postsecondary access and success: preparation; awareness; financial issues; and institutional responsibility. Information on these four dimensions will be a springboard for the Foundation's program and research agenda. (SLD)

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What We Know About Access and Success In Postsecondary Education:

Informing Lumina Foundation's Strategic Direction

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Today, more than ever, knowledge is a coveted resource, and learning is the key to success. Education — especially higher education — improves the quality of life by providing long-term economic gains, better health and increased civic participation. Therefore, postsecondary access and success are issues of immediate relevance and importance. The opportunity to enroll in a postsecondary institution and the ability to complete one's educational objectives (e.g., occupational training, certificate or degree attainment) define postsecondary access and success.

But many students face formidable roadblocks. Financial need, inadequate academic preparation and insufficient information block postsecondary opportunity for hundreds of thousands of capable and motivated students. Frequently, these financial, academic and information obstacles are statistically associated with a student's racial or ethnic background and socioeconomic status.

Large and growing gaps between racial, ethnic and socioeconomic groups' access to and success in postsecondary education undermine the goal of equity delineated in the Higher Education Act of 1965. If steps aren't taken to close these gaps, this inequity will continue to grow. Demographic trends show that, in the coming decades, most of the increase in the traditional college-age population will consist of students of color and students from low-income homes. Many of these students also will be first-generation — that is, the first in their families to attend college. At the same time, demographers predict that the fastest-growing segments of America's youth will be students historically underrepresented in postsecondary education. Changes in the economy will also increase the number of adult workers who return to postsecondary institutions for retraining, new skills and new opportunities.

Federal and state governments, institutions of higher education, and middle and secondary schools all must work together to reverse the current inequity in postsecondary access. Because they are influenced by a complex set of interrelated factors and entities, it is useful to view access and success as a synthesis of four dimensions: preparation, awareness, financial issues and institutional responsibility. Within each of these interdependent dimensions, family, community, education, government and private organizations interact to influence access and success.

Preparation refers to individual motivation and skills *and* to the curriculum, teacher quality, and the extent and availability of middle and secondary school resources. In part, the gap in college-going rates by race and socioeconomic status is caused by similar gaps that exist in the rates of students who participate in college-prep curriculum, who graduate from high school, who take the SAT or ACT, and who apply to postsecondary institutions.

Awareness refers to information about academic requirements, college costs, the application process, financial aid resources, fields of study, student support services and the importance of postsecondary education. Many families misperceive the cost of postsecondary education, and many students are unsure about application requirements and financial aid options. To ensure that students and their families make informed choices about postsecondary education, it is essential to close these gaps in awareness.

Financial issues refer to the shared responsibility of governments, philanthropies, businesses, postsecondary institutions and students and their families to pay the costs of college. This responsibility is shared because of the social and individual benefits that accrue to society as a result of increased levels of educational attainment. In terms of financial aid, the extent to which federal, state

and institutional financial aid programs help students and families close the gap between family financial resources and college prices is fundamental. During the last two decades, the prices associated with attending postsecondary institutions have soared, while the purchasing power of need-based grant aid has declined. In addition, federal and private educational loans have replaced grants as the primary method that students and families use to pay for college. Because of these changes, students — particularly low-income students — find it more and more difficult to enroll and succeed in postsecondary institutions.

Institutional responsibility refers to the services, programs (academic and social) and environment provided by postsecondary institutions to meet the needs of students they admit. More than any other entity, institutions of higher education directly influence access and success. Ultimately, it is postsecondary institutions that must craft and implement programs and services to ensure equitable opportunity for their students. These services and programs require administrative policies and resources geared towards access, retention and attainment.

In sum, unequal opportunity shapes the patterns of access and success in postsecondary education. Only a concerted effort by federal and state policy-makers, educational providers and other interested stakeholders can bring about the changes that lead to more equal opportunity in postsecondary education. By improving students' awareness and academic preparation, changing the structure of postsecondary finance and enhancing institutional responsibility, we can extend this vital opportunity to a larger, more diverse population.

The following research-based evidence represents the knowledge base for our strategic direction; it documents the extent to which inequity is present across four dimensions of postsecondary access and success: preparation, awareness, financial issues and institutional responsibility. We intend to use this information as a springboard for informing our program and research agenda to bring about social change in the patterns of postsecondary access and success. This change will flow through students and families, postsecondary institutions and public policy, as outlined in Lumina Foundation's programmatic logic model.

Research-Based Evidence Related to the Four Dimensions of Access and Success

Each of these dimensions is affected by social and environmental factors outside the educational system (K-16). These factors include, but are not limited to, economic development issues (e.g., the availability of jobs requiring a postsecondary degree or certificate) and competing demands (e.g., parenting, employment, health and well-being).

Dimension 1 – Preparation

Axiom 1 — An effective K-12 educational system should provide core curriculum and training necessary for successful admission to postsecondary education.

1. High school graduation rates vary by race, ethnicity, gender and socioeconomic characteristics of students[1].
2. Completion of college application requirements varies by socioeconomic status[2].
3. Participation in college-preparatory curriculum varies by race, ethnicity and income characteristics of students[3].
4. Secondary school curriculum has a strong effect on bachelor's degree attainment[4].
5. Curriculum in the senior year of high school is not rigorous (does not encourage college preparation)[5].
6. College-going rates vary by race, ethnicity, gender and socioeconomic characteristics of students[6].
7. College-going rates vary among high schools according to the extent of poverty in each school[7].
8. Standardized Achievement Test Scores (e.g., SAT, NAEP) vary by race, ethnicity and socio-economic characteristics of students[8].
9. Standardized Assessment Test Scores are higher in schools that spend more resources on classroom instruction[9].
10. Investments in K-12 educational systems vary among states and among districts within states according to relative wealth/property in those states and districts[10].
11. Mentoring, tutoring and other direct service programs have shown modest success in helping some students overcome the inequities of the K-12 educational system[11].
12. Peer aspirations influence enrollment decisions of at-risk students[12].

Dimension 2 – Awareness

Axiom 2 — An informed public must understand the realities of college prices, financial aid and the range of postsecondary options in order to make sound decisions.

13. Access to reliable information about college is strongly affected by socio-economic status (SES)[13].
14. Surveys of students and parents suggest a lack of accurate knowledge concerning the price of a college education[14].

15. African-American high school students have identified three psychological barriers to participation in higher education: 1) the belief that college is not an option, 2) the loss of hope, and 3) the intimidation factor[15].
16. Aspirations to obtain a college degree are not any lower for African-American students and parents than for other students[16].
17. College aspirations may vary by socioeconomic status[17].
18. Education tax-credit programs are often not understood[18].
19. Institutions of postsecondary education have redirected marketing and recruiting activities[19].

Dimension 3 – Financial Issues

Axiom 3 — Governments (federal, state and local), philanthropies, businesses, postsecondary institutions, and participating students and families share responsibility for the costs of college.

20. The share of college costs paid by students and families is increasing, while the share paid by governments is declining[20].
21. College prices continue to rise much faster than financial aid and family incomes[21].
22. The gap between family resources and the price of college is growing for low-income students[22].
23. College affordability varies among states, institutions and student-types[23].

Axiom 4 — Federal, state and institutional financial aid programs and policies are necessary to bridge the gap between family resources and college prices.

24. Full-time college enrollment is generally not possible for adult learners due to insufficient financial aid[24].
25. Non-need-based financial aid programs are growing at federal, state and institutional levels faster than need-based financial aid programs[25].
26. Merit-based financial aid disproportionately flows to students from the highest income levels[26].
27. The federal government provides two-thirds of all financial aid – and 75 percent of this aid is in the form of loans[27].
28. The type of financial aid program (grant or loan) has different effects on college enrollment[28].
29. Need-based grants affect persistence decisions of first-year, low-income students[29].
30. Student educational debt levels negatively impact persistence and attainment, especially for low-income and minority students[30].
31. Educational debt burdens are growing for college graduates, especially low- income students and those pursuing careers in social services, humanities, nursing and education[31].

Dimension 4 – Institutional Responsibility

Axiom 5 — Colleges and universities should have administrative policies and resources (academic, social and cultural) geared toward access, retention and attainment consistent with their mission and market niche.

32. Baccalaureate degree attainment rates vary by socioeconomic status[32].
33. Five-year graduation rates at both public and private four-year colleges are declining as are three-year graduation rates at two-year community colleges[33].
34. Six-year graduation rates at colleges and universities vary considerably according to the race and ethnic characteristics of students[34].
35. Educational attainment gaps between white and racial and ethnic minorities (Hispanics and African-Americans) are growing for both men and women[35].
36. Social integration of students into dimensions of campus life positively affects student success[36].
37. Low-income and first-generation students benefit from campus interventions that address the lack of adequate academic preparation, the lack of family support, the difficulties of the transition to college, and the cultural conflict between the home and college community[37].
38. A "structured freshman year program" has been shown to be a "best practice" of successful student support services programs[38].
39. Retention and attainment are affected by the complex interaction of student characteristics, institution-wide characteristics, academic good practices and student services good practices[39].
40. Competing responsibilities of work and family impede student success, especially for adult learners[40].
41. Students who successfully complete remedial courses at both two- and four-year colleges are highly likely to complete associate's or bachelor's degree programs, or to be employed in a non-minimum wage job[41].
42. The effect of admission and financial aid policies on students and prospective students differs by individuals' race and ethnic background[42].

ENDNOTES — REFERENCES INFORMING THIS DOCUMENT

[1] National Center for Education Statistics, The Condition of Education, 2001. The percentage of 25- to 29-year-olds who completed high school by 2000 varies by ethnicity and gender: 93 percent-White men, 95 percent-White women, 88 percent-Black men, 86 percent-Black women, 59 percent-Hispanic men, 66 percent-Hispanic women.

U.S. Census Bureau, Educational Attainment in the United States, March 1999. Almost 88 percent of the Non-Hispanic White population 25 years old and over are at least high school graduates, compared with 77 percent of the Non-Hispanic Black population, 85 percent of the Non-Hispanic Asian and Pacific Islander population, and 56 percent of the Hispanic population.

[2] Edward P. St. John, Prepared notes for presentation to Doctoral Student Seminar, Indiana University, February 2002. Data compiled from NCES, Digest of Education Statistics 1997, Table 22, p. 42. Of college qualified, high-income students, 90.7 percent take a college entrance exam and apply, 6.5 percent take an entrance exam but don't apply, and 2.7 percent don't take an exam and don't apply. The respective numbers for middle-income students are 73.3 percent, 15.9 percent, and 9.8 percent; for low-income students the numbers are 61.5 percent, 17.2 percent, and 19.2 percent.

[3] Edward C. Warburton, Rosio Bugarin and Anne-Marie Nunez, Bridging the Gap: Academic Preparation and Postsecondary Success of First-Generation Students: US Department of Education, OERI, May 2001. The proportion of first-generation students who took advanced mathematics courses in high school (i.e., pre-calculus and calculus) was lower than their non-first-generation peers — 23 percent vs. 25 percent and 20 percent vs. 31 percent, respectively. Further, 40 percent of first-generation beginning postsecondary students completed Core New Basics or below high school curriculum compared with only 28 percent of their non-first-generation peers. Conversely, only 9 percent of first-generation students completed a rigorous high school curriculum compared with 22 percent of their non-first-generation peers.

Patrick T. Terenzini, Alberto F. Cabrera and Elena M. Bernal, Swimming Against the Tide: The Poor in American Higher Education: The College Board, 2001. Lowest-SES quartile students (compared to highest SES students) are consistently under-represented in the upper two quartiles in all academic ability areas: reading (44 percent vs. 78 percent), mathematics (44 percent vs. 82 percent), science (39 percent vs. 79 percent) and selected social science areas (45 percent vs. 79 percent).

Advisory Committee on Student Financial Assistance, Access Denied, February 2001. In 1999, 53 percent of college-bound high school seniors with incomes between $12,000 and $18,000 completed college preparatory core courses in high school, compared with 60 percent of students with incomes between $30,000 and $36,000, 65 percent of students with incomes between $50,000 and $60,000, and 73 percent of students with incomes greater than $100,000.

Wayne J. Camara and Amy Elizabeth Schmidt, Group Differences in Standardized Testing and Social Stratification: College Entrance Examination Board, 1999. In 1997, 71 percent of students who completed one or more AP examinations were White, 12 percent Asian, 8 percent Hispanic, and 5 percent African-American. Further, differences in the years of science and math education completed across racial and ethnic categories remained even when controlling for parental education and income.

National Center for Education Statistics, The Condition of Education, 2000. Only 21 percent of high school graduates with family incomes below $25,000 were highly or very highly qualified for college, compared with 35 percent of high school graduates with family incomes between $25,000 and $75,000 and 56 percent of students with family incomes greater than $75,000. Further, 36 percent of white high school graduates were highly or very highly qualified for college, compared with 16 percent of blacks and 19 percent of Hispanics.

Ramona S. Thomas, Black and Latino College Enrollment. Paper presented to American Educational Research Association, 1998. Citing several earlier studies, Thomas argues that Black and Latino students are typically underrepresented in college preparatory programs and over-represented in low ability (vocational and general) tracks in high school, while the reverse is true for White students. Tracking in high school may be the single most powerful determinant of college participation, with students placed in a college preparatory program more likely to attend college than those assigned to general and vocational tracks.

[4] Clifford Adelman, Answers in the Tool Box: Academic Intensity, Attendance Patterns and Bachelor's Degree Attainment: US Department of Education, OERI: June 1999. The intensity and quality of secondary school curriculum has a stronger effect on bachelor's degree attainment than do high school grades or standardized test scores, and these effects are more pronounced for African-American and Latino students. Of all pre-college curricula, the highest level of mathematics one studies in secondary school has the strongest continuing influence on bachelor's degree completion.

[5] National Commission on the High School Senior Year, Raising Our Sights: No High School Senior Left Behind, October 2001. Only 10 states have aligned their high school graduation and college admission requirements in English. Only two states have aligned their requirements in mathematics.

Michael W. Kirst, Overcoming the High School Senior Slump, Institute for Educational Leadership and the National Center for Public Policy and Higher Education, May 2001. Graduation assessments seldom include material from the 12th grade. The college admissions calendar does not provide incentives for high school seniors to take rigorous academic courses. A lack of coherence between the senior year curriculum and college general education courses also undermines a rigorous 12th grade curriculum.

[6] Patrick T. Terenzini, Alberto F. Cabrera and Elena M. Bernal, Swimming Against the Tide: The Poor in American Higher Education: The College Board, 2001. Fifteen percent of the students entering postsecondary education in 1989-90 were from the lowest socio-economic status (SES) quartile compared with 40 percent from the highest quartile. The non-postsecondary enrollment rate of the lowest-SES-quartile high school graduates is nearly five times higher than that of high-SES students (48 percent vs. 11 percent).

Tom Mortenson, Postsecondary Education Opportunity, May 2001 (Number 107). In 2000, 60 percent of male high school graduates enrolled in college compared with 66 percent of female high school graduates. These college continuation rates also vary by race and ethnicity: 66 percent Non-Hispanic White, 56 percent Black, and 53 percent Hispanic.

Advisory Committee on Student Financial Assistance, Access Denied, February 2001. Only 47 percent of highly and very highly qualified low-income high school graduates enroll in four-year colleges, compared with 67 percent of high-income high school graduates. Similarly, 61 percent of highly and very highly qualified White high school graduates enroll in four-year colleges compared with 44 percent of Hispanics and 28 percent of Blacks. Further, almost 90 percent of 18- to-24 year old high school graduates with family incomes above $75,000 participated in college in 1997 compared with about 77 percent of those with family incomes between $47,000-$75,000, about 68 percent of those with family incomes between $25,000-$47,000, and about 50 percent of those with family incomes below $25,000.

National Center for Education Statistics, The Condition of Education, 2000. Seventy-seven percent of college-qualified high school graduates with family incomes below $25,000 enrolled in some form of postsecondary education, compared with 90 percent of high school graduates with family incomes between $25,000 and $75,000 and 96 percent with family incomes greater than $75,000.

Tom Kane, National Bureau of Economic Research Working Paper, 1995. Between 1980 and 1993, the college enrollment gap between the bottom and top three income quartiles increased by 12 percent.

United States Bureau of the Census, 1999. Thirty-nine percent of White 18- to-24 year-olds were enrolled in a degree-granting postsecondary institution in 1999, compared with 30 percent of African-Americans and 16 percent of Hispanics.

Edward P. St. John, Prepared notes for presentation to Doctoral Student Seminar, Indiana University, February 2002. Data compiled from NCES, Digest of Education Statistics 2000. NCES 2001-034, Table 187, p. 216. In 1975, 32.3 percent of White high school graduates between the ages of 18 and 24 enrolled in college, compared to 31.5 percent of Black students and 35.5 percent of Hispanic students. In 1999, 45.3 percent of White students enrolled, compared to 39.2 percent of Black students and 31.6 percent of Hispanic students. Census data from 2000 indicates 18- to-24-year-old dependent White students enroll in college at nearly a 50 percent rate, compared to 36 percent for African- Americans and 31 percent for Hispanic Americans.

[7] Derek V. Price and Edward B. Reeves, "School Poverty, School Accountability and Postsecondary Enrollments: A Challenge for Educational Reform in Kentucky," Journal of Poverty (forthcoming). High-poverty schools in Kentucky send fewer of their graduates to postsecondary institutions, but high-poverty schools with high dropout rates may increase their college enrollment rates. Therefore, school accountability measures may not lead to increased college enrollments in poor schools.

[8] Patricia Donahue and Others, "The NAEP Reading Report Card for the Nation and the States," Education Statistics Quarterly, 1(2): Summer 1999. White and Asian fourth-grade, eighth-grade and twelfth-grade students score higher in reading than do Black, Hispanic and

American Indian students. Across the three grades in 1998, between 39 and 47 percent of White students were at or above the Proficient level compared with 10- to-18 percent of Black students and 13- to-26 percent of Hispanic students. In 1992, 1994 and 1998, the average reading scores for females were higher than males at all three grades.

Christopher Jencks and Meredith Phillips, The Black-White Test Score Gap. Washington, D. C.: Brookings, 1998. African-Americans typically score below 75- to-85 percent of Whites on most standardized tests. Both family income and parental wealth explain part of the Black-White gap on the Peabody Picture Vocabulary Test-Revised (which is part of the Children of the National Longitudinal Survey of Youth database) [See Chapter 4]. The proportion of Blacks who scored in the lowest 5 percent of the distribution of test scores in six separate nationally representative samples (between 1965 and 1992) is between four and eight times larger than the proportion of Whites who scored in the lowest 5 percent. Conversely, the proportion of Whites who scored in the upper 5 percent of the distribution of test scores is between ten and 20 times the proportion of Blacks [See Chapter 5].

Edward C. Warburton, Rosio Bugarin and Anne-Marie Nunez, Bridging the Gap: Academic Preparation and Postsecondary Success of First-Generation Students: US Department of Education, OERI, May 2001. Forty percent of first-generation students performed in the lowest quartile of the SAT/ACT composite, compared with only 15 percent of non-first-generation students whose parents had at least a bachelor's degree. On the other hand, 33 percent of non-first-generation students whose parents had at least a bachelor's degree performed in the highest quartile, compared with only 12 percent of first-generation students.

Patrick T. Terenzini, Alberto F. Cabrera and Elena M. Bernal, Swimming Against the Tide: The Poor in American Higher Education: The College Board, 2001. On the ACT composite and SAT mathematics and verbal tests, low-SES students are consistently below their top-SES-quartile peers by a margin of 22 to 26 percentile points.

Advisory Committee on Student Financial Assistance, Access Denied, February 2001. About 97 percent of students in the highest socioeconomic status quartile who also were in the highest achievement test quartile attended college in 1994, compared with only 78 percent of highest-achieving students from the lowest SES quartile. Similarly, 77 percent of lowest achieving students from the highest SES quartile attended college, compared with 36 percent of lowest-achieving students from lowest SES quartile.

Wayne J. Camara and Amy Elizabeth Schmidt, Group Differences in Standardized Testing and Social Stratification: College Entrance Examination Board, 1999. Mean SAT verbal and math scores were significantly higher for Whites than for African-Americans or Hispanics: Verbal (White – 526, African-American – 434, Hispanic – 456), Math (White – 528, African-American – 426, Hispanic – 460). This report also shows a direct relationship between SES and SAT verbal and math scores: combined totals by income are 908 (< $20,000), 977 ($20,000-$25,000), 1020 ($35,000-$60,000), 1067 ($60,000-$100,000), and 1132 (> $100,000).

[9] Ron Renchler, Poverty and Learning, ERIC Digest, Number 83, 1993. Students with low socioeconomic status are clustered in schools that are grossly underfunded compared with students with higher SES. A study in 84 academic high schools in New York found that for each additional $100 spent on classroom instruction, students gained as much as 18 points on

the combined mathematics and verbal sections of the SAT (Lonnie Harp in Education Week, March 31, 1993).

[10] National Center for Education Statistics, Inequalities in Public School District Revenues, 1998. The lowest poverty and lowest percent minority districts have substantially more general education revenues than their higher poverty and percent minority counterparts. Districts with higher median household income and median value of owner-occupied housing also have substantially higher general education revenue. Although "categorical funds" for programs that provide services to children with disabilities, children who are limited English proficient, "at-risk", or economically disadvantaged lessen the gaps in general education revenue between wealthy and poor districts (and between low and high minority districts), they do not sufficiently supplement base resources to result in equity with low poverty districts.

National Center for Education Statistics, Do Rich and Poor Districts Spend Alike? December 1996. The average public education actual expenditure in districts serving the students in the nation's poorest communities is $4,375, compared with $6,827 in districts serving students in the nation's richest communities (a 56 percent gap). Using a "buying power" concept of school district spending takes into account the variation in cost of living across the nation; however, the gap in this expenditure per student measure between the richest and poorest districts is still 36 percent (or $5,139 vs. $3,782).

[11] Public/Private Ventures, The ABCs of School-Based Mentoring, September 2000. An evaluation of a Big Brothers Big Sisters of America school-based mentoring program found that 64 percent of youth in the program developed a more positive attitude toward school; 58 percent achieved higher grades in social studies, language and math; 60 percent improved relationships with adults, and 56 percent improved relationships with peers. In addition, students who participated in the program were less likely to repeat a grade, and their average number of unexcused absences dropped. (According to the authors, these programs are more suited for elementary schools.)

M. Roderick and S. Stone, Changing Standards, Changing Relationships: Building Family-School Relationships to Promote Achievement in High Schools. Research Brief, Student Life In High Schools Project, University of Chicago, 1998. This study of partnership building efforts in Chicago high schools found that schools that linked improving student achievement to building strong relationships with families saw the greatest improvement in student performance. These programs focused on academics and improving access to information about how students are doing, building parents' academic skills, bringing parents and teachers together to share issues and concerns, and building the school's capacity to reach out to parents.

Adrianna Kezar, "Early Intervention: Beyond Getting Kids into College." Education Digest, Vol. 66, Issue 8, April 2001. Upward Bound participants are four times more likely to earn a baccalaureate degree than nonparticipating students with similar backgrounds; 73 percent of Talent Search participants enroll in college.

Council for Opportunity in Education, Directory of TRIO Programs, 2000-2001, Washington D.C.: Council for Opportunity in Education, 2001. Sixty percent of Upward Bound participants enroll in college, more than double the enrollment rate of low-income students

nationally. High school dropout rates for low-income Upward Bound participants drop from 35 percent, the national average, to 11 percent. While these findings suggest TRIO programs are successful, the overall impact of TRIO is limited: of the more than 11 million students who qualify for TRIO services, less than 10 percent actually participate in TRIO programs.

[12] Laura J. Horn and Xianglei Chen, Toward Resiliency: At-Risk Students Who Make It to College, Office of Educational Research and Improvement. 1998, p 5. When most of a moderate- to high-risk student's friends plan to attend a four-year college, at-risk students are six times more likely to attend a four-year institution compared to another form of postsecondary education and 2.8 times more likely to enroll at an institution of post-secondary education than not to enroll.

[13] Alberto F. Carbrera and Steven M. La Nasa, Understanding the College Choice of Disadvantaged Students: New Directions for Institutional Research 107, Fall 2000. Upper-income students report a variety of sources of information about college — parents, students, catalogues, college representatives and private guidance counselors. In contrast, low-income students rely almost exclusively on high school counselors. Reporting on the literature, the authors state that "net of parent's gender and college expectations for the child, parent's education and having children in college exerted the strongest effects on parental knowledge of financial aid programs."

Stan Ikenberry and Terry Hartle, The Decision to Go to College: Attitudes and Experiences Associated with College Attendance Among Low-Income Students: American Council on Education, 1998. The amount and quality of information on college financing varies proportionately with socioeconomic status.

Patrick T. Terenzini, Alberto F. Cabrera and Elena M. Bernal, Swimming Against the Tide: The Poor in American Higher Education: The College Board, 2001. By the ninth grade, most students have developed occupational and educational expectations that are strongly related to socioeconomic status, all of them unfavorable to low-SES students in comparison with their more affluent counterparts.

Institute for Local Government Administration and Rural Developments, Research Updates: Ohio University, December 1992. In rural Appalachia, teachers' perceptions of students' abilities may affect the amount of college information provided to prospective college students.

[14] National Center for Education Statistics, The Condition of Education, 2001. In 1999, about two-thirds of students in 6th-12th grade who had postsecondary education plans could not estimate tuition and fees for the college they planned to attend (46 percent of the parents could not estimate tuition and fees). The ability to estimate tuition and fees accurately (i.e., within 25 percent of actual average) is related to household income; 68 percent of parents with incomes below $15,000 could not estimate tuition and fees, compared with only 25 percent of parents with incomes above $75,000. Of those parents who could estimate tuition and fees, accuracy was also related to household income; 38 percent of parents with incomes above $75,000 made accurate estimates, compared with 12 percent of parents with incomes below $15,000, 19 percent of parents with incomes between $15,000-$30,000, and 25 percent of parents with incomes between $30,000-$50,000. Interestingly, a larger portion of parents with higher incomes overestimated tuition and fees. The average parent's estimate for

tuition and fees was $5,970, which is significantly higher than the $3,243 average of actual tuition and fees.

KnowledgeWorks Foundation, Ohio's Education Matters, 2002. Three hundred twenty-three adult residents in Ohio were polled on the average tuition and fees at Ohio public colleges and universities from an original 442 randomly selected adult residents. These adults reported an average estimate of tuition and fees in Ohio to be $11,418 — more than double the actual average.

American Council on Education, Attitudes Toward Public Higher Education, 2002. A national survey of 700 adults suggests that the public significantly over-estimates both tuition and fess and the overall price of public higher education. The average estimate for tuition and fees was $11,637, or three times higher than the national average of $3,754. Similarly, the average estimate for the overall price of college was $20, 361 — or 70 percent higher than the national average price of attending a public four-year institution ($11,976).

Institute for Local Government Administration and Rural Developments, Research Updates: Ohio University, December 1992. Fifty-three percent of students surveyed in these Ohio Appalachian counties estimated the costs of attendance at community colleges at twice the actual cost (or more).

[15] Kassie Freeman, "Increasing African-Americans' Participation in Higher Education," Journal of Higher Education 68(5), 1997. Interviews with African-American high school students discovered three "awareness" obstacles to higher education. 1) The belief that college is never an option reflects the lack of encouragement by parents or school personnel that college was a legitimate goal. 2) The loss of hope reflects a lack of belief in the benefits of a college education that some African-Americans attribute to their peers. 3) The intimidation factor was the most prevalent theme and refers to the cultural differences between "what a college campus looks like" (e.g., predominantly white) and what many African-Americans' K-12 system looked like (i.e., almost exclusively non-white). The African-American high school students in this study suggested four factors that could improve college participation rates: improving school conditions, having more interested teachers and actively involved counselors, instilling college possibilities earlier and emphasizing cultural awareness.

[16] Daniel G. Solorzano, "An Exploratory Analysis of the Effects of Race, Class, and Gender on Student and Parent Mobility Aspirations," Journal of Negro Education 61(1), 1992. When comparing higher educational aspirations within SES quartiles, Black men and women had higher aspirations than did White men and women. For example, at the lowest SES quartile, 73 percent of Black women and 71 percent of Black men held higher education aspirations, compared with only 59 percent of White women and 49 percent of White men. This pattern also held true for African-American parents compared with White parents.

Lara Carr Steelman and Brian Powell, "Doing the Right Thing: Race and Parental Locus of Responsibility for Funding College," Sociology of Education 66, 1993. Minority parents were more likely to support governmental financial aid for higher education than White parents but were also more likely to accept responsibility for paying for their children's college education. (White parents expect their children to bear more of the costs.)

[17] Edward P. St. John, Prepared notes for presentation to Doctoral Student Seminar, Indiana University, February 2002. Data compiled from NCES, Digest of Education Statistics 1997, Table 19 p. 36. The data found that 94.7 percent of high-income 8th graders expect to finish a college degree, compared to 84.8 percent of middle-income students and 69.8 percent of low-income students. At the 12th grade level, 92.5 percent of high-income students plan to enroll in a 4-year institution, compared to 80.4 percent of middle-income 12th graders and 78.6 percent of low-income seniors. The Class of 1992 Data Source suggests modestly different numbers. Instead of socioeconomic status, two groups were contrasted based on net price theory — students with a low unmet need and students with a high unmet need. In the 8th grade, 100 percent of those with low unmet need expected to attend or finish college, compared to 93 percent of those with high unmet need. In the 12th grade the percentages dipped to 93 percent and 78 percent respectively. Eighty-seven percent of those with low unmet need took a qualifying examination and applied to college, compared to 65 percent of students with high unmet need. 83 percent of students with low unmet need actually enrolled in a four-year college within two years of High School graduation, compared to 52 percent of students with high unmet need. Ultimately, 48 percent of students with low unmet completed a four-year degree, compared to 11 percent of students with high unmet need.

[18] T. R. Wolanin, Rhetoric and Reality: Effects and Consequences of the HOPE Scholarship. 2001, Pg. 13. Citing: Remarks as prepared for delivery by U.S. Secretary of Education Richard W. Riley, Association of American Colleges and Universities, Washington, D.C., January 20, 2000. In tax year 1998, about one-third of the estimated eligible families claimed an education tax credit, claiming only about $3.4 billion of the estimated $7 billion in eligible credits.

[19] Hunter Breland, et al., Trends in College Admission 2000: A Report of a Survey of Undergraduate Admissions Policies, Practices, and Procedures. National Association of College Admissions Counselors, 2000. Between 1992 and 2000, the number of four-year public institutions that made "very frequent" recruiting visits to high schools decreased from 94 percent to 86 percent. Institutions reporting use of "very frequent" direct mailings increased from 73 percent to 80 percent and telephone calls increased from 45 percent to 61 percent; billboard advertising increased from 5 percent to 12 percent; commercial radio/TV advertising from 8 percent to 16 percent; public radio/TV advertising from 8 percent to 14 percent; and local newspaper advertising from 14 percent to 25 percent. (Table 6.2) Recruiting activities for racial/ethnic minority student groups declined between 1992 and 2000 from 91 percent to 66 percent. (Table 6.4) In 2000, 45 percent of four-year public institutions had hired marketing/public relations consultants, compared to 25 percent in 1992. (Table 6.8)

Tamra B. Orr, "Surfing for a College," Career World, Jan 2002, Vol. 30, Issue 4, pp 16-17. In 1998, approximately 57 percent of high school seniors used the Internet to access college information. By 2001, the number rose to more than 80 percent.

[20] National Center for Education Statistics, Digest of Education Statistics, 2001. As a portion of education and general expenditures by institutions of higher education, the state's share declined from 41 percent in 1979 to 30 percent in 1996, while the share covered by tuition and fees rose from 27 percent to 36 percent (Tables 331 and 339).

Data from The Center for Higher Education at Illinois State University (Grapevine Data on Tax Support for Higher Education) show that the appropriation of state tax funds for higher education per $1,000 of personal income declined in 47 of 50 states between 1990 and 1999.

Jane V. Wellman, Looking Back, Going Forward: The Carnegie Commission Tuition Policy: Institute for Higher Education Policy Working Paper, January 2001. The current share of total education expenditures in 1995-96 between families (39 percent), federal, state and local governments (49 percent), and philanthropy (12 percent) is significantly divorced from the 1973 benchmarks established by the Carnegie Commission on Higher Education — 30 percent families, 60 percent taxpayers and 10 percent philanthropic. The Commission's recommendation that economic access to college is a social responsibility that should be funded from the broadest possible revenue source is unfulfilled.

American Council on Education, Attitudes Toward Public Higher Education, 2002. A national survey of 700 adults suggests that 48 percent of the public favors increased investments in higher education — 69 percent would oppose cuts in current spending for public higher education.

Trends in College Pricing 2000, New York: College Entrance Examination Board, 2000. pg. 14. In 1972, middle-income families needed 13 percent of their income to meet the needs of a four-year public institution. By 1999, this number had risen to 16 percent. In comparison, low-income families in 1972 needed 42 percent of their income to meet college costs and 62 percent in 1999. These affordability indices are more dramatic for private institutions. Middle-income families needed 27 percent of their income in 1972 and 43 percent in 1999 to cover tuition at a four-year private college. Low-income families needed 87 percent of their income in 1972 and 163 percent in 1999.

Michael Mumper, State Efforts to Keep Public Colleges Affordable in the Face of Fiscal Stress. In J. C. Smart (Ed.). Higher Education: Handbook of Theory and Research. Vol. 13. New York: Agathon, 1998. Pg. 157. Between 1990 and 1995, mean state funding of higher education declined 0.6 percent annually, while Medicaid rose 10.0 percent, Prison spending rose 8.5 percent, K-12 rose 3.7 percent and state welfare programs rose 1.6 percent annually.

21 U.S. Department of Education, Study of College Costs and Prices, 1988-89 to 1997-98, Volume 1 (December 2001). Across all types of public institutions, undergraduate tuition and fees increased annually by an average of 4.1 percent at research/doctoral institutions, 4.2 percent at comprehensive institutions, 4.3 percent at bachelor's institutions and 3.4 percent at two-year institutions. The comparable annual percentage increase across all types of private not-for-profit institutions was 3.6 percent at research/doctoral institutions, 4.1 percent at comprehensive institutions and 3.7 percent at bachelor's institutions. Direct state appropriations and tuition changes at public institutions have the largest statistical correlations. On the other hand, at private four-year institutions, institutional aid and average faculty compensation levels are strongly correlated with tuition changes; average tuition at public four-year colleges in the state, and average per capita income in the state were also correlated with tuition changes at private four-year colleges.

United States General Accounting Office, Tuition Rising Faster Than Household Income and Public Colleges' Costs, GAO/HEHS-96-154: p.5, 1996. Between 1981 and 1985, tuition at a four-year public college increased 234 percent, while median household income rose 82 percent during this time and the cost of consumer goods rose 74 percent.

United States General Accounting Office, College Tuition and Fees: Changes in the 1995-1996 to 1999-2000 Period Compared With Median Household Income. GAO/HEHS-00-

198R: pp. 3-6, 2000. Between 1996 and 2000, tuition at public four-year and 2-year colleges increased about 25 percent and at private four-year colleges about 31 percent. During this five-year period, median household income rose 25.4 percent and the cost of consumer goods increased by 12.4 percent.

[22] Advisory Committee on Student Financial Assistance, Access Denied, February 2001. Unmet financial need for low-income students ranges from $3,200 at public two-year colleges to $3,800 at public four-year colleges and $6,200 at private four-year colleges.

Tom Mortenson, personal correspondence, January 2002. The average unmet need increased 33 percent from $3,000 to $4,000 between 1995 and 1999 according to theNational Postsecondary Student Aid Survey(NPSAS: 2000).

National Center for Education Statistics, June 2002, Student Financing of Undergraduate Education: 1999-2000. The average amount of remaining need in 1999-2000 for dependent students from families with income less than $20,000 was $3,765 at public two-year institutions, $4,203 at non-doctorate granting public four-year colleges, $5,335 at doctorate-granting public four-year colleges, $6,024 at private non-doctorate granting four-year colleges and $7,840 at doctorate-granting private four-year colleges. The figures for dependent students from families with incomes between $20,000 and $40,000 were $3,433 (pub 2Y), $3,452 and $4,904 (public 4Y), and $6,889 and $8,537 (private 4Y). Overall, remaining need in 1999-2000 after all types of financial aid and the expected family contribution averaged $4,902 for dependent students with family incomes below $20,000, $4,710 for dependent students with family incomes between $20,000 and $40,000, and $4,597 for dependent students with family incomes between $40,000 and $60,000.

Institute for Higher Education Policy, Do Grants Matter? – Student Grant Aid and College Affordability: November 1998. Between 1976 and 1996, net prices (the total price minus all financial aid awards) at public institutions of higher education increased by 28 percent for students from families with annual income below $40,000.

D. Bruce Johnstone, "Financing Higher Education: Who Should Pay?" American Higher Education in the Twenty-First Century: Baltimore, 1999. Between 1979 and 1994, tuition, room and board as a percentage of family income increased from 15.1 percent to 26.2 percent for students in the 25th percentile of family income. For comparison, the percentage of family income needed to pay tuition, room and board at the median increased from 9.1 percent to 14.2 percent, and from 6.3 percent to 9.1 percent for the 75th percentile. Put another way, the cost of college for students in the top income quartile was proportionately lower in 1994 than the cost for students in the bottom income quartile in 1979!

[23] National Center for Public Policy and Higher Education, Measuring Up: 2000.

Lumina Foundation for Education, Unequal Opportunity: Disparities in College Access Among the 50 States, January 2002.

Advisory Committee on Student Financial Assistance, Access Denied, February 2001.

[24] Lumina Foundation for Education, Unequal Opportunity: Disparities in College Access Among the 50 States, January 2002. Low-income adult students have access to less than one-

third of public four-year institutions and less than 5 percent of private four-year institutions. Median-income adult learners have access to 52 percent of public four-year institutions and 8 percent of private four-year institutions. Only public community colleges provide significant access for adult students (93 percent for median-income and 68 percent for low-income) and these require students to borrow.

Tally Hart, Lumina Academic Advisory Council Meeting, February 2002. Federal and institutional needs analysis is based on the dependent student model and does not account for the unique family situations of many adult students. Further, the income thresholds for Pell Grant eligibility are significantly lower for adult students, which reduces their eligibility for federal grant aid.

Council for Adult and Experiential Learning, Serving Adult Learners in Higher Education, 2000. Equity and financial flexibility are necessary to make college affordable for adult learners. Some exemplary practices toward this end include deferred payment options, financial aid availability for part-time students, and incremental charging throughout the course of a program with equitable refund policies.

Brian Bosworth and Victoria Choitz, Held Back: How Student Aid Programs Fail Working Adults, Futureworks Corporation, 2002. Federal Direct Loans and Federal Family Education Loans are not available to students taking courses less than half time, and adult students make up a significant proportion of less-than-half-time-students. Less than one-half of all less-than-half-time students receive SEOG grants, and less than one percent of Pell Grant recipients were less-than-half-time students. Most state financial aid programs present similar barriers for adult students.

[25] JBL Associates: presented at the 2000 National Governors Association Center for Best Practices. A full Pell Grant covered 78 percent of tuition for a public four-year institution in 1975. In 1999, a full Pell covered 39 percent of tuition. Given the increase in the traditional college-age population and assuming Pell funding increases 4 percent each year for the next 10 years, by 2010 Pell funding will be $2.042 billion short of providing the year 2000 level of value. Other reports state Pell Grants covered 84 percent of tuition in 1975-1976 and 40 percent in 2000-2001: Stephen Burd. Rift Grows Over What Keeps Low-Income Students Out of College. *The Chronicle of Higher Education*, January 25, 2002.

Travis Reindl and Ken Redd, Institutional Aid in the 1990s: The Consequences of Policy Connections: Washington, D.C.: American Association of State Colleges and Universities, 1999. Between 1995 and 1997, states increased their spending on non-need-based programs by 12 percent, compared with only 5 percent for need-based programs.

M. P. McKeown-Moak, Financing Higher Education: An Annual Report from the States: Tallahassee, FL: State Higher Education Executive Officers Association, 1999. In the 1998 legislative session, 12 states implemented merit-based scholarship programs as a new form of state financial aid.

Y. Mulugetta, Possible Long-Term Effects of Awarding Merit Aid. Paper presented at the Annual Forum of the Association of Institutional Research, 1999. The average merit award to college freshmen increased by 81 percent between 1989 and 1996, compared with a 28.6 percent increase in the average need-based grant.

Michael McPherson and Morton Owen Schapiro, The Student Aid Game: Meeting Need and Rewarding Talent in Higher Education, 1998. Private selective colleges are increasing merit-based scholarships substantially to compete with each other for students presumed to be high achievers.

[26] Don Heller and T. F. Nelson Laird, "Institutional Need-Based and Non-Need Grants: Trends and Differences Among College and University Sectors," Journal of Student Financial Aid 29(3), 1999. Between 1989 and 1996, the number of merit-based awards at four-year institutions decreased by 19 percent and 12 percent for low- and middle-income students, respectively. But the number of awards increased by 16 percent for high-income students. The size of merit-based grants also increased by 117 percent during this period.

Derek V. Price, "Merit Aid and Inequality: Evidence from Baccalaureate & Beyond," Journal of Student Financial Aid 31(2), 2001. Among a nationally representative sample of 1992-93 college graduates, merit aid was primarily awarded to middle- and upper-income White students. African-Americans and Hispanics were less likely to receive merit-based financial aid.

[27] The College Board, Trends in Student Aid, 2001. In 2000-01, $51 billion of the $74 billion in total available financial aid were from federal programs. Of the $51 billion in federal financial aid, $37 billion was in the form of student loans administered through the Family Education Loan Program (FFELP) or Ford Direct Loan Program. Since 1980, federal student loans have grown 516 percent compared with 232 percent growth in the Pell Grant program. During the 1990s, Pell Grants grew 23 percent in inflation-adjusted dollars compared with 58 percent growth in FFELP and 425 percent growth in direct loans (tracked since 1994-95).

[28] Martin Carnoy, "Why Aren't More African Americans Going to College?" Journal of Blacks in Higher Education 6, 1994/95. During the 1980s, federal financial aid shifted from primarily grants to primarily loans. During the same period, fewer Blacks enrolled in college. Carnoy posits that the net decline in financial aid during this period (after controlling for inflation), in large part a function of rising college prices, affected Blacks more than Whites because a higher proportion of Blacks were from low-income families. He argues that "more high school graduates from poor minority families were competing for less financial aid in real terms" — the chance of receiving a grant went down by half during this period.

Robert M. Hauser, "The Decline in College Entry Among African-Americans: Findings in Search of an Explanation." In Prejudice, Politics and Race in America Today, 1992. African-Americans are less likely to borrow for college because the returns on a college education are lower for Blacks compared to Whites, and because the levels of debt required in many cases exceeds their annual family income.

Michael McPherson and Morton Owen Schapiro, The Student Aid game: Meeting Need and Rewarding talent in Higher Education, 1998. The higher net costs of college restrict the options for lower income students, who are increasingly attending community colleges. These higher net costs are partly a function of the declining percentage of tuition covered by federal financial aid grants: between 1986 and 1993 the percentage declined from 68 percent to 42 percent.

Don Heller, "Student Price Response in Higher Education: An Update to Leslie and Brinkman," Journal of Higher Education 68(6), 1997. In general, grants have a stronger influence on college enrollment behavior than do loans. African-American, Hispanic and low-income students are more price responsive than are white and middle- and upper-income students. (Price responsive means that the students are less likely to enroll in college, or are more likely to change the type of institution in which they enroll.)

Alberto F. Carbrera and Steven M. La Nasa, Understanding the College Choice of Disadvantaged Students: New Directions for Institutional Research 107, Fall 2000. Targeting grants to low-income students is likely to result in increased enrollments; for example, a $1,000 increase in grant aid increases enrollment rates for low-income students by 9 percentage points, while a similar increase in tuition would decrease enrollment rates by 3.4 percentage points. The same increase in grant aid has a 3-percentage point positive effect for lower-middle and middle-income students.

[29] United States General Accounting Office, Challenges in Promoting Access and Excellence in Education. GAO/T-HEHS-97-99: p. 8. 1997. An additional $1,000 grant reduces the probability of a first-year, low-income student dropping out by 23 percent.

[30] James Cofer and Patricia Somers, "A Comparison of the Influence of Debtload on the Persistence of Students at Public and Private Colleges," Journal of Student Financial Aid 30(2), 2000. Medium and high debt levels reduce the probability of persistence between 4 and 7 percent for students at private colleges. Tuition levels and the amount of grants exert more influence on persistence at public colleges than do debt levels.

Derek V. Price, Graduate and Professional Degree Attainment Among 1992-93 College Graduates, Unpublished Monograph, Lumina Foundation for Education, 2001. Undergraduates who borrow reduced their odds of obtaining a graduate or professional degree within four years by 9 percent.

Therese L. Baker and William Velez, "Access to and Opportunity in Postsecondary Education in the United States: A Review," Sociology of Education, 1996. Summarizing the literature, the authors report that grants and work-study financial aid awards are beneficial to persistence, but that loans are not. They also report "means-tested student aid is effective in compensating for the disadvantage of low-income, so that low-income students who receive it are as likely to persist in college as are more affluent students."

Sandy Baum and Diane Saunders, Life After Debt: Results of the National Student Loan Survey: Nellie Mae, February 1998. In1997, 70 percent of Black, Hispanic and Asian/Pacific Islander borrowers who did not complete a degree reported that loans prevented them from staying in school. African-Americans with greatest levels of debt burden disproportionately report that student loan debt changed their career plans or prevented them from attending graduate school.

[31] Derek V. Price, Student Loans and Social Inequality, unpublished monograph, Lumina Foundation for Education, 2002. Among a national sample of 1992-93 baccalaureate degree recipients, low-income students from families with incomes of less than 1.85 times the poverty rate had a six times greater risk than higher-income students of having educational debt burden exceed the eight percent maximum threshold (8 percent of monthly income after

taxes). Students from families with incomes between 1.85 times the poverty rate and 3.4 times the poverty rate had a 3.6 times greater risk of having debt burden exceed the eight percent threshold.

Jacqueline E. King, Money Matters: The Impact of Race/Ethnicity and Gender on How Students Pay for College: American Council on Education, 1999. Almost eight out of ten African-Americans who earn a bachelor's degree borrow, and the average amount of student loan debt they accrue is $13,000. The average loan debt for African-Americans who complete an associate degree program is $6,500. Among Hispanic students who graduate with a bachelor's degree, almost 70 percent have debt averaging $11,500. For comparison, just over half of White bachelor's degree recipients borrowed while in college, and their average indebtedness is $12,300.

Sandy Baum and Diane Saunders, Life After Debt: Results of the National Student Loan Survey: Nellie Mae, February 1998. In 1997, lower-income students who received Pell Grants were more likely than other undergraduate borrowers to have debt exceeding $20,000. The average percentage of monthly income that goes towards student loan payments was 12 percent, which is two to four percent higher than the maximum acceptable debt burden according to the US Department of Education and the student loan industry. Debt burdens are especially high for students who make lower than average salaries (like art and music majors).

The State PIRG's Higher Education Project, The Burden of Borrowing: A report on the rising rates of student loan debt (Executive Summary). 2001. Thirty-nine percent of student loan recipients graduate with unmanageable debt, as defined as debt repayments which exceed 8 percent of monthly income. In comparison, 55 percent of African American and 58 percent of Hispanic student borrowers graduate with unmanageable debt burden.

Advisory Committee on Student Financial Assistance, Empty Promises: The Myth of College Access in America, Washington D.C., June, 2002, p 12. In 1999, dependent students from low-income families borrowed $2,982 each year to assist in meeting college expenses. This is up from an average amount of $1,812 in 1992.

United States General Accounting Office. Students Have Increased Borrowing and Working to Help Pay Higher Tuitions, GAO/HEHS-98-63: p. 2, 1998. Between 1993 and 1996, the percentage of graduating college students (associates or bachelor's) with student loans increased from 41 percent to 52 percent. Additionally, 60 percent of students graduating with a bachelor's degree and had borrowed at some point in their program and had an average debt of about $13,300, and 19 percent of graduating seniors had student loan debt exceeding $20,000.

"Higher Education, Increasingly Important for All Americans, is Unaffordable for Many," Illuminations, Lumina Foundation for Education, August 2002. Student loans paid for 95 percent of the increased charges to students at four-year public colleges between 1991 and 1995. In the following four years, loans covered 62 percent of these increases. (Jerry S. Davis)

[32] Advisory Committee on Student Financial Assistance, Access Denied: Restoring the Nation's Commitment to Equal Educational Opportunity, 2001, Pg. 4. Six percent of low-income

students earn a baccalaureate degree compared to 40 percent of students from the highest socioeconomic quartile.

[33] Tom Mortenson, Postsecondary Education Opportunity, Number 73, July 1998. Between 1983 and 1998, five-year institutional graduation rates at public and private four-year colleges declined from 52 and 60 percent to 43 and 56 percent, respectively. 1998 graduation rates vary by college selectivity for both private and public colleges: Highly Selective (71 percent public, 80 percent private), Selective (50 percent, 64 percent), Traditional (39 percent, 53 percent), Liberal (35 percent, 42 percent), and Open (31 percent, 41 percent).

American College Testing Service (http:///www.act.org/news/releases/201/04-26-01.html) 2001. In 2000, five-year graduation rates at public four-year colleges were 41.9 percent compared with 55.5 percent at private four-year colleges and 32.4 percent at public two-year colleges.

[34] Higher Education Research Institute, UCLA (Alexander Astin, et al.), Degree Attainment Rates at American Colleges and Universities: Effects of Race, Gender, and Institutional Type, September 1996. The percent of college freshmen who complete a bachelor's degree within six years varies by race and ethnicity: Whites 46.8 percent, African-Americans 31.2 percent, American Indian 30.7 percent, Asian-American 56.6 percent, Mexican-American/Chicano 38.3 percent, Puerto-Rican American 34.6 percent.

[35] United States Bureau of the Census, March 2000. In 1974, about 4 percent of Hispanic women, 7 percent of Hispanic men, 6 percent of African-American men and 5 percent of African-American women had completed at least four years of college. The comparable rate for white women and men was 18 percent and 11 percent, respectively. By 2000, almost 31 percent of white men had completed at least four years of college, compared with 16 percent of African-American men and 11 percent of Hispanic men. Similarly, 26 percent of white women had completed at least four years of college in 2000, compared with 17 percent of African-American women and 11 percent of Hispanic women.

[36] Vincent Tinto, Leaving College: Rethinking the Causes and Cures of Student Attrition: University of Chicago Press, 1993 and 1987.

Ernest Pascarella, Student-Faculty Informal Contact and College Outcomes. Review of Educational Research 50: 545-595, 1980.

Patrick Velasquez, Cultural Activities and Campus Involvement, National TRIO Clearinghouse. This monograph lays out a framework for "cultural democracy" at postsecondary institutions. Student support services can provide cultural activities that facilitate biculturalism on campus. Biculturalism refers to the process wherein individuals learn to function in two distinct sociocultural environments: their primary culture and the culture of the dominant mainstream of society.

B. L. Chaney, et al., National Study of Student Support Services: Third-Year Longitudinal Survey Results and Program Implementation Study Update. U.S. Department of Education, 1997. Participation in cultural events facilitated by Student Support Services (a TRIO program) is associated with increased grade point averages in the first year of college.

[37] Council for Opportunity in Education, Directory of TRIO Programs, 2000-2001. Washington D.C.: Council for Opportunity in Education, 2001, Pg. 7. Student Support Services (a TRIO Program) participants persist into the third year of college at a 22 percent higher rate than students with similar backgrounds who do not participate in the program.

Paul Thayer, Retaining First Generation and Low Income Students. Opportunity Outlook, May 2000. In a review of the literature, especially as it relates to TRIO programs, Thayer lays out the key issues campuses must address in intervention programs for "at-risk" students. (See pg. 4, item 37.)

[38] John N. Gardner, "Focusing on the First-Year Student," AGB Priorities 17, Fall 2001. Including families in orientation and residence life activities boosts the comfort level of new students. Academic and social advisors should be trained, evaluated and rewarded for their important work in helping students successfully transition to college. First-year seminars can serve as a primary agent of socialization and success if they involve outstanding faculty, last a full academic term or longer, involve a high percentage of first-year students, and are challenging, credit-bearing, degree-applicable courses. Service-learning in the first year encourages civic engagement by students and enhances their connection to the large university community.

TIME Magazine, September 5, 2001 (http://www.time.com/time/2001/coy/story.html) Citing 30 years of experimentation and data by John N. Gardner and other higher education experts, freshman retention rates can be improved if colleges: train faculty to mentor and support new students, create first-year seminars and "learning communities," teach students organizational and study skills, and arrange dorms so first-year students live among students with similar academic interests.

Lana Muraskin, A Structured Freshman Year for At-Risk Students. National TRIO Clearinghouse. In a structured freshman year program, project staff design the initial educational experiences of project participants. Elements of a structured freshman year include staff input on conditional admission to college, student participation in summer bridge programs, staff decision making on students' initial course selections, and intrusive academic and social advising.

[39] Dudely B. Woodard Jr., Sherry L. Mallory, and Anne M. De Luca, Retention and Institutional Effort: A Self-Study Framework, NASPA Journal 39(1), Fall 2001. An extensive overview of retention research is synthesized into a retention framework with four primary factors: 1) student characteristics such as academic preparation, student commitment and student interests; 2) institution-wide characteristics such as having a clear mission, valuing student learning and initiative and having a sense of community; 3) academic good practices, including opportunities for students to practice good skills, encouraging students to engage in out-of-class interactions with faculty and providing students collaborative work opportunities with other students, and 4) student services' good practices, such as engaging students in active learning, building supportive and inclusive communities, and setting high expectations.

Jonathan Whitbourne, "The Dropout Dilemma," Careers & Colleges, Mar/Apr 2002, Vol. 22, Issue 4, pp. 26-31. Citing American College Testing: One in four students leaves college before completing his/her sophomore year.

[40] United States General Accounting Office, Students Have Increased Borrowing and Working to Help Pay Higher Tuitions, GAO/HEHS-98-63: p. 3, 1998. During the 1995-1996 academic year, more than two-thirds of full-time undergraduate students held jobs, working an average of 23 hours per week.

[41] Robert McCabe, League of Innovation (as reported in Recruitment and Retention in Higher Education, April 2001 15(4)). Following more than 1,500 randomly selected remedial education students at 26 campuses for nine years, McCabe found that 16 percent earned four-year degrees, one-third earned associate degrees or work-related certificates, and 90 percent of those who had left school without earning a degree or certificate were employed in a "new-tech" or office-related career job.

National Center for Developmental Education (as reported in Recruitment and Retention in Higher Education, April 2001 15(4)). More than 30 percent of under-prepared minority students who pass developmental education courses at four-year colleges eventually earn a bachelor's degree.

Jeff E. Hoyt, "Remedial Education and Student Attrition," Community College Review, Fall 1999, Vol. 27, Issue 2, pp. 51-73. Citing U.S. Department of Education, 1996. Approximately 41 percent of community college students needed remedial education in 1995.

[42] Hunter Breland, et al., Trends in College Admission 2000: A Report of a Survey of Undergraduate Admissions Policies, Practices, and Procedures. National Association of College Admissions Counselors, 2000. Overall acceptance rates at four-year public institutions declined between 1985 and 1999 from 72 percent to 68 percent. The acceptance rate for White applicants fell from 72 percent to 70 percent, for Native American applicants from 76 percent to 68 percent, for Asian applicants from 66 percent to 57 percent, for Hispanic applicants from 69 percent to 57 percent, and for African American applicants from 65 percent to 47 percent. (Table 2.4) Admission Officers cited high school GPA/rank as a very important factor in the admission decision, test scores and high school curriculum as moderately important factors, and letters of recommendation and essays as minor factors. (Table 4.8) Between 1992 and 2000, the number of four-year public institutions offering financial aid to accepted students based on race/ethnic background dropped from 63 percent to 47 percent. Aid based on geographic location in the United States rose from 18 percent to 33 percent and aid to international students rose from 19 percent to 30 percent. (Table 6.13)

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